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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,769	11/29/2000	Benjamin L. Furman	SWRI-2749A	1922

7590

07/28/2004

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EXAMINER
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LE, HOA T

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/726,769

Applicant(s)

FURMAN ET AL

Examiner

H. T. Le

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on April 29, 2004
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) 27-32, 39-50, 76-85, 113-124 and 158 is/are withdrawn from consideration.
- 5) ☒ Claim(s) See Continuation Sheet is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Continuation of Disposition of Claims:

- 4) Claims pending in the application are 1-20,27-32,39-124,128-131,133,135-140,142-147,149-151 and 154-159.
- 5) Claims allowed are 1-14,51-54,56-58,61-63,86-89,92-95,98-101,104-106,109-112,128,129,133,142,143,149,154-157 and 159.
- 6) Claims rejected are 15-20,55,59,60,64-75,90,91,96,97,102,103,107,108,130,131,135-140,144-147,150 and 151.

## DETAILED ACTION

### *Election/Restrictions*

1. Claim 158 is hereby withdrawn from further consideration because it depends on claim 76 which has been withdrawn from consideration as directed to a non-elected invention (species restriction). See previous office actions on the restriction and withdrawal of claim 76.

### *Claim Rejections - 35 USC § 112*

1. Claims 66-75, 130, 131, 135-140, 144-147, 150 and 151 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants' amendment to claims 66-70 is noted and appreciated; however, the amendment does not correct the problem raised in the last office action. As stated previously, by definition, an alkenyl contains at least two carbon atoms; therefore, an alkenyl containing "one carbon atom" (as defined in claims 66-70) does not exist. The alkenyl groups must be redefined to contain "two or more carbon atoms" in order to overcome this rejection. Amendment must also be made in the specification as well.

Claims 71-75, 130, 131, 135-140, 144-147, 150, and 151 are deemed indefinite in view of their dependency on any one of claims 66-70.

2. Claims 15-20, 55, 59, 60, 64, 65, 69, 70, 74, 75, 90, 91, 96, 97, 102, 103, 107, 108, 131, 136, 138, 140, 145, 147, and 151 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 15-20, it is unclear what a "complexed fraction" of hydroxyl groups constitutes and how it differs from an "uncomplexed fraction" of hydroxyl groups.

In claims 17 and 18, "complexed portion" has no clear antecedent basis.

Other claims (as listed above) are deemed indefinite in view of their dependency upon one of claims 15-20.

*Allowable Subject Matter*

3. Claims 1-14, 51-54, 56-58, 61-63, 86-89, 92-95, 98-101, 104-106, 109-112, 128, 129, 133, 142, 143, 149, 154-157 and 159 are allowed over the prior art of record.
4. The following is a statement of reasons for the indication of allowable subject matter: None of the references of record, singly or in combination, teach or suggest zirconium dioxide particles having specific surface functionalities as claimed
5. References are cited as art of interest.
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. T. Le whose telephone number is 571-272-1511. The examiner can normally be reached on 10:00 a.m. to 6:30 p.m., Mondays to Friday.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'H. T. Le', is positioned above the printed name and title.

H. T. Le  
Primary Examiner  
Art Unit 1773